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(54) **Device for joining parquet-type plaques or pieces**

(57) It permits tongue-and-groove connection of wooden or similar pieces (18) with a square or rectangular shape in linear or intermeshed composition of the pieces (18). It includes some projections (24) for connection located in two consecutive sides and there exist corresponding recesses (28) on the two sides opposite to the above. Both the projections (24) and the recesses (28) have a configuration in the form of an obtuse angle triangle, adopting an oblique arrangement in order to achieve the intermeshing and having inverted orientations for permitting the coupling between pieces (18) to be able to be done according to a simple diagonal movement of the new piece to lay.

The recesses (28) and projections (24) are located in the lower third of the thickness of the piece (18), the first in a lower flange (29) and the second below a flange (25) of the central third of the thickness of the pieces (18).

The visible face can be backed on to a ceramic tile or similar.

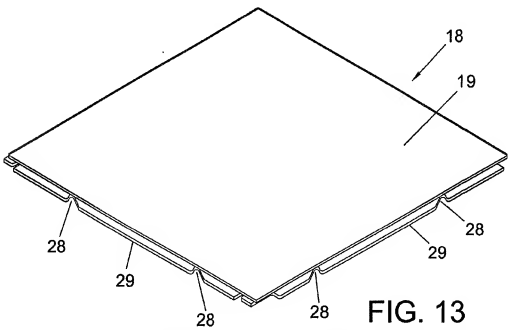

FIG. 13

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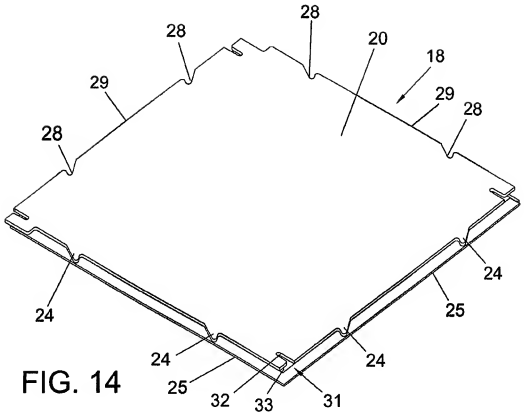


FIG. 14

Description

OBJECT OF THE INVENTION

[0001] As stated in the title of this descriptive specification, the present invention relates to a device for joining parquet-type plaques or pieces, with which notable advantages are contributed compared to previous floors of this type and which includes means of tongue-and-grooving between the different pieces.

[0002] It is an aim of the invention to achieve a novel form of laying plaques or tiles and preferably parquet-type pieces that is simple though which nevertheless presents a high level of finish and termination.

[0003] It is also an aim of the invention to endow this type of parquet with an additional technical advantage which would permit the generation of a greater number of modulations and therefore similar decorative effects to those which it is possible to achieve with non-tongue-and-grooved parquet pieces, as is the case of compositions in herring-bone.

PRIOR ART OF THE INVENTION

[0004] There currently exist a wide range of forms and systems of laying a floor based on tiles that can be fitted together, but a solid type of join is not achieved and, when it comes to longer lasting floors, the pieces are not optimally intermeshed, or at least they do not present a structure for the tiles or plaques and the joining of pieces in general which, in accordance with the present invention, leads to a form of laying parquet and similar displaying major advantages compared to the current systems of laying, above all in terms of the ease and intuitiveness of installation, fitting of the pieces, and the inclusion of joints.

DESCRIPTION OF THE INVENTION

[0005] The device in question is based on the classical pieces or tiles constituting the floor or parquet, but endowed with certain characteristic means of securing which is explained below.

[0006] The means of securing consist of certain angular projections located in at least one of the sides of the piece, and which collaborate with certain extensions or flanges to which they are backed onto via their lower face, in order to be interconnected in a tongue-and-grooved fashion and also intermeshed with the recipient housings of the adjacent piece and which are found on the opposite side of the pieces.

[0007] On this opposite side or edge provision is made for the existence of some recesses at an angle, provided in association with a lower flange which will in turn remain beneath the flange or extension of the edge carrying the angular projections, according to a tongue-and-groove connection in a coplanar movement of the pieces. In order to achieve total securing, one piece is displaced slightly and in the perpendicular direction to that first movement with respect to the other piece so that the end of the angular projection by way of a hook penetrates into the end elbow of the angular recess of the other piece or plaque.

[0008] Provision is also made for the upper or visible face of these parquet type plaques or pieces and similar to have a plaque of any type of pavement (ceramic, synthetic, natural etc.) backed onto them.

[0009] In the second case, in other words, when the pieces have another plaque of pavement backed onto them, some separation joints are preferably included, for which the edges include a corresponding machining. The joint has an inverted profile in the form of a "T", the central piece of which is located between the adjacent plaques and the cross-piece is included in separate openings of the parquet type plaques or pieces, with these openings being effected higher than the paracentral extension or connection flange, in other words, very close to the upper face of the parquet-type piece.

[0010] The other two opposite sides of the parquet-type plaques or pieces are joined in a tongue-and-groove fashion but differently from the above, due to one of the edges having at least one mortise comprising two flanges collateral to it and able to be introduced in other depressions of the opposite edge of the other piece or plaque in a longitudinal fitting.

[0011] Provision has also been made so that, in the event of fitting the parquet-type pieces according to a linear composition, in other words, when the joints are arranged continuously, in order to prevent sliding, a depression has been included in the form of a corner piece, which is applied to the angular zone of two pieces at their meeting point, with the pieces being thus perfectly intermeshed together. One tab of the corner piece and part of the other will remain inserted in the recess of the flange of one of the pieces and the rest of this tab in the depression of the flange of the plaque which occupies a diagonal position, being covered with the plaque which closes the joining of the four pieces.

[0012] All the corner pieces remain hidden, of course, when the tongue-and-grooving of the pieces is carried out in the formation of the parquet-type floor.

[0013] In the intermeshed composition of the pieces, in other words, when they are located in a quincunx, the blocking corner pieces are not required because the array is kept very stable and blocked. When in particular the pieces have a rectangular shape, the larger sides are the ones to bear the means of angular engagement and the lesser sides bear the other type of engagement. In these rectangular pieces, an intermeshed composition can be carried out half-piece, with the pieces centred or in a quincunx, or an intermeshed composition can be carried out in quarter-piece or other variations that might be desired, since it all depends on the number of angular projections and recesses existing.

[0014] In another form of embodiment, the parquet which the invention proposes is made up of pieces that

include some connection projections in one of their edges and specifically in the lower third of their thickness, and recipient recesses in the opposite edge of an adjacent piece and also made in a flange in an extension of the same lower third of the thickness of the piece. The projections are located below a continuous flange emerging from the central third of the thickness of the piece and this flange will in turn be housed in a recipient groove of the opposite edge of the adjacent piece in a linear or intermeshed composition of the pieces.

[0015] The upper face or strip of the pieces can carry a ceramic or similar plaque backed onto it by means of glue. It is also considered that there could exist sealing joints interposed between the ceramic plaques, said joints in that case having an inverted "T" cross-section so that the central piece is located between the adjacent plaques and the cross-piece is introduced into the respective slots cut perimetrically in the upper third of the thickness of the wooden or similar piece. Above the perimetric slot, the wooden or similar piece will have a facing in order to permit the accurate fit of the joint, with this facing corresponding to the upper half of the central piece of that joint. The ceramic plaques will of course have the dimensions corresponding to those of the visible face of the lower piece.

[0016] The connection projections between the pieces are located in two consecutive sides thereof and the corresponding recesses exist in the two opposite sides to the previous ones. The shape of the recesses and projections is identical to each other and have the form of a obtuse angle triangle, the projections thus being obliquely or diagonally shaped but in such a way that the orientation of those located on one of the sides is inverted with respect to those located on the other adjacent side.

[0017] This arrangement determines that the coupling between pieces can be done by coplanar sliding of the new piece to be fitted with a diagonal movement. So, the new installed piece will not be able to be removed unless it is displaced in the same diagonal direction as it was introduced, since it will otherwise remain intermeshed. It is no longer necessary to make compound displacements in order to connect these pieces or tiles as used to occur with the configuration of recesses or projections commented on earlier.

[0018] Another characteristic shown by this second form of embodiment lies in the fact that the flange of the central third of the thickness of the piece is continuously extended along both consecutive sides, with the particular feature moreover that its upper face ends in the form of a ramp descending towards the free edge and slightly projecting beyond the connection projections located beneath it.

[0019] Each of the opposite edges to said flanges in extension of the central third of the thickness has a recipient groove of complementary cross-section made in it, in order to optimise the fit between pieces.

[0020] The clips or "U" shaped engagement elements are also used for achieving a better intermeshing of every two contiguous pieces in the same row, for which the lower face of the pieces have some angular notches cut in them which affect only the lower third of the thickness, one of which sections is arranged close to and parallel to the adjacent sides and is made from the other opposite sides. The other section which completes the angular shape of the recipient notch of the "U" shaped clip affects solely the edge of the end zones. When the two adjacent pieces have been fitted, the clip is perfectly installed and remains flush with the edge without obstructing the fitting of the new piece, whether the composition is linear or intermeshed.

[0021] Provision has also been made for the upper or visible face of the wooden or similar pieces to be covered with a ceramic or similar plaque stuck with adhesive. In this case, hermetic sealing joints can be fitted between the plaques, such joints having the form of an inverted "T" shape in cross-section, and in this case the upper third of the thickness of the piece has a perimetric facing in order to reduce the surface and which permits the joint to be fitted between the two adjacent plaques. The joints have the general form of an inverted "T" and the cross-member is housed in separate perimetric grooves made for the purpose in this upper third of the thickness of the pieces.

[0022] In a third form of embodiment, the parquet, though it has a structure similar to the previous embodiment mentioned and which has the oblique projections of the lower third of the piece in two of its adjacent sides, along with complementary oblique recipient recesses in the other sides, and flanges and slots in the central third of the thickness, presents the advantageous characteristic mentioned earlier in the section on object of the invention. This consists of the fact that the number of different compositions of the parquet can be increased without tongue-and-grooving, as with herring-bone formations in the case of rectangular pieces.

[0023] To achieve this, according to the invention there are two types of pieces involved in the formation of the parquet, both of them being symmetric with respect to a perpendicular plane parallel to one of their sides and with mirror symmetry. All the pieces have the flanges, slots, oblique recesses and oblique projections, in a symmetrical arrangement, and therefore the herring-bone formation is achieved by alternating pieces of one type with those of the other type in order to be able to fit the new piece in a position rotated through 90° with respect to the one previously fitted of the type.

[0024] The same type of pieces cannot be used for producing herring-bone formations.

[0025] In this case that has been commented on and which is of preferred embodiment, the herring-bone formation is carried out with pieces of both types in equal dimensions. Provision is also made for the length of one type of piece to be a multiple of the width of the piece of the other type and the width of the former to be a divisor of the length of the latter. So, the pieces of one of the types can be square and those of the other type rectan-

gular of lesser side having half the value of the side of the square, and the larger side being double among other combinations.

[0026] In order to facilitate the understanding of the characteristics of the invention and forming an integral part of this descriptive specification, some sheets of drawings are attached containing figures in which, on an illustrative rather than limiting basis, the following have been represented:

BRIEF DESCRIPTION OF THE DRAWINGS

[0027]

Figure 1.- Shows a perspective view of the joining of parquet-type plaques or pieces in a linear composition, with the device forming the object of the invention and with one of the plaque being shown in exploded form.

Figure 2.- Is a view similar to figure 1 in a half-piece intermeshed composition, with the same plaques.

Figure 3.- Is a plan view of one of the plaques or pieces of parquet.

Figure 4.- Is a lower plan view of the same plaque.

Figure 5.- Is an elevation view of the same plaque as in figure 3.

Figure 6.- Is a plan view of that shown in figure 2.

Figure 7.- Is a lower plan view of the same figure 2.

Figure 8.- Is an elevation view of figure 7.

Figure 9.- Is a view similar to that of figure 1 in a form of embodiment in which the parquet-type plaques or pieces include a ceramic or similar pavement as their visible face and there exist separation joints between plaques.

Figure 10.- Is a plan view of the detail A of figure 9.

Figure 11.- Is a cross-section though the line of cut B-B of figure 9.

Figure 12.- Is a lower plan view of that shown in figure 9 but in a half-piece intermeshed composition.

Figure 13.- Is a perspective view of one of the pieces of the parquet forming the object of the invention, in a second form of embodiment.

Figure 14.- Is a perspective view of the same piece of parquet of figure 13, from the lower face.

Figure 15.- Is a plan view of that shown in figure 13.

Figure 16.- Is an elevation view of that shown in figure 15.

Figure 17.- Is a profile view of that shown in figure 15.

Figure 18.- Is a lower plan view corresponding to figure 14.

Figure 19.- Is a plan view of the fitting of four pieces of the parquet.

Figure 20.- Is an elevation view of that shown in figure 19.

Figure 21.- Is a lower plan view of that shown in figures 19 and 20.

Figure 22.- Is an exploded elevation view in order to observe the coupling of two pieces of the parquet.

Figure 23.- Is view similar to figure 22 once the coupling has been carried out.

Figure 24.- Is a lower plan view of the fitting of four pieces of parquet, in an intermeshed composition.

Figure 25.- Is a plan view of a portion of intermeshed parquet constructed according to the third form of embodiment of the invention.

Figure 26.- Is a plan view, similar to figure 25, according to another distribution of herring-bone assembly which follows a direction parallel to the side of the contour.

Figure 27, 28 and 29.- Are respective views in plan, longitudinal elevation and transverse elevation of one of the pieces of parquet corresponding to one of the two types, in accordance with this third form of embodiment of the invention.

Figure 30.- Is a lower plan view of that shown in figures 27 to 29.

Figure 31.- Is a perspective view of the same piece of parquet of figures 27 to 30.

Figures 32, 33 and 34.- Are respective views in plan, longitudinal elevation and transverse elevation of one of the pieces of parquet of the other type, in accordance with the invention.

Figure 35.- Is a lower plan view of the same piece of parquet of figures 32 to 34.

Figure 36.- Is a perspective view of the same piece of figures 32 to 35.

Figure 37.- Is an exploded perspective view of the same parquet as in figure 26, in order to observe the intermeshed fitting of the pieces of the parquet.

Figure 38.- Is an enlarged view of the detail C of figure 37.

Figure 39.- Is perspective view via the lower face of the parquet of figure 25.

Figure 40.- Is a plan view of a portion of parquet constructed with pieces of different dimensions: squares and rectangles, corresponding to the two respective types of pieces of parquet.

DESCRIPTION OF THE PREFERRED FORM OF EMBODIMENT

[0028] Making reference to the numbering adopted in figures 1 to 12, the device for joining parquet type pieces or pieces, which the invention proposes, permits the tongue-and-groove fitting of these pieces in two perpendicular coplanar movements, one of approach and the other of lateral sliding for the fit. Figure **1** shows the joining of plaques **1** in a linear combination (they are aligned in two perpendicular directions, with the joints therefore coinciding) and figure **2** shows a half-piece intermeshed composition.

[0029] To achieve this, the plaques **1** have in one of their larger sides some angular extensions **2** as an extension of the lower face and corresponding to a third of the total thickness of the piece, as can be seen in figure **5.** On the opposite side there exist respective recesses

3 at an angle which have the same thickness (one third of the total thickness of the piece 1), and of such a size that permits the entrance of the angular extension 2 and its subsequent lateral displacement so that the angular pieces interconnect and secure the join. The angular extensions or projections 2 remain backing on below the central rim 4 of that edge and the recesses 3 eliminate the wall of the lower flange 5 defined in the lower third of the thickness of the plaque 1.

[0030] The paracentral flange 4 (central in the case shown in the figures, since, as we have said, the thickness is approximately one third of that of the plaque 1), projects with respect to the upper or visible face of the plaque 1, this upper face being perfectly rectangular as can be seen in the fitting of plaques 1. Said flange 4 will remain introduced in the groove 6 of the opposite edge of an adjacent piece, as can be seen more clearly in figures 7 and 8. The visible face is referenced with the number 7 and the lower or hidden face with the number 8.

[0031] In figure 7 the connection in two perpendicular movements can be seen for engaging the angular extensions 2 in the recesses 3. The furthermost recess 3 of those existing also remains open at the contiguous edge owing to the proximity to the corner of the plaque.

[0032] What has been mentioned so far in this section permits connection between the plaques 1 via their longitudinal or greater edges In this example of rectangular plaques 1.

[0033] The connection via the lesser edges is also carried out in a precise manner due to the existence in one of them of the flanges 9 formed on one and the other side of the mortise 10, in the same lower plane as the flange 5, said flanges 9 being introduced in the mortised depressions 11 of the opposite edge of an adjacent plaque, to one side and the other of the trapezoid projection 12 intermediate between them, in a linear movement simultaneous to the lateral displacement for entrance of the elbows of the angular projection 2 and angular recess 3.

[0034] Making special reference now to figures 9 to 12, we see an example of embodiment with square plaques 1' which possess in their upper or visible face a ceramic or similar plaque 13, stuck to them by gluing. In this case we can seen how the edges of the wood have been machined in an inverted "T" for the joint 14 of identical cross-section, and the central piece of that joint is extended until it is practically flush (or remains slightly tucked in) with the visible face of the plaque 13. The joint 14 fits perfectly into the sides of the ceramic plaque 13 due to having small co-lateral oblique tabs which can be seen in the drawings.

[0035] The joints 14 are finished in a double bevel In order to solve the meeting points (see figures 9 and 10) when the fitting of the plaques is done adapting a linear composition. If the fitting is half-piece intermeshing (figure 12) the joints 14 are straight because they make end to end contact against each other in the longitudinal lines which are continuous and also in the transverse or perpendicular sections between them.

[0036] In figures 1, 6 and 7 we see a linear composition of plaques 1 and in figure 2 a half-piece intermeshed composition since the pieces 1 are arranged centred in a quincunx. With this geometry of plaques 1, a quarter-piece intermeshing can also be carried out simply by making the connection between plaques more out of phase by selecting other connection recesses for the engagements at an angle.

[0037] Finally, in the linear composition of plaques, both of the type 1 and of the type 1', a perfect intermeshing is achieved by locating the corner pieces 15 (figures 1, 6, 10) In the depressions 16-17 which, when they coincide, form the recipient depression for that corner piece 15. Such corner pieces become perfectly hidden when the final piece is laid which closes the meeting of four pieces or plaques 1 and 1'.

[0038] Making reference now to the numbering adopted in figures 13 to 24, we can see that the parquet which the invention proposes is formed in this second example of embodiment with square-shaped pieces referenced in general with number 18. The visible face is referenced with number 19 and the hidden face with number 20.

[0039] In the enlarged details of figures 16 and 17, it can be seen that the thickness of the pieces 18 is divided into three parts which can be equal or different. The upper third is referenced with number 21, the central one with number 22 and the lower with number 23.

[0040] The connection projections between pieces 18, made between the lower face 20 and which occupy the lower third 23, are referenced with the number 24 and are to be found on two adjacent sides and below the flange 25 which is continued along both adjacent or consecutive sides. The upper face of this flange is referenced with 26 and it shapes a ramp which facilitates the entrance of said flange 25 in the groove 27 of the respective opposite sides of the piece 18, as can be seen In the enlarged detail of figure 16. The coupling of two adjacent pieces is more clearly seen in figures 22 and 23, which respectively show the position before and after the coupling.

[0041] The recesses corresponding to the projections 24 located on the respective opposite sides and also consecutive with each other are referenced with the number 28, and there exist four recesses 28 and a further four projections 24 in the contour of the pieces 18, in facing positions.

[0042] The recesses are made in the edge of the flange 29 located in an extension of the lower third 23 of the thickness of the piece 18, In two of the corresponding consecutive sides, as is seen in the enlarged detail of figure 16 which corresponds to an elevation view of figure 15.

[0043] Note that the projections 24 and the complementary recesses 28 all have the shape of an obtuse angle triangle adopting an oblique arrangement in the same diagonal direction of the pieces 18, which means that the pieces can only be coupled in this diagonal direction since they enter perfectly centred. Both also have

their edges rounded for that same purpose.

[0044] Making special mention of figures 14 and 21, in order to ensure the immobility of the pieces **18** of the parquet, clips **30** are located in the angular notches **31** of perpendicular sections **32** and **33** which, in the assembly of two pieces, shape the recipient housing for the clip **30**, the angular notches **31** affecting solely the lower third **29** of the thickness of the piece. The sections **32** are made solely in two of the opposite sides of the pieces **18** and in proximity to the other two sides thereof. The sections **33** affect just the edge of the end zones of these same sides. In figure 21 one of the clips is already fitted and it can be seen how a blocking is produced in alignments of pieces in a linear composition, while in figure 24 an assembly can be seen following an intermeshed composition of the pieces **18**. The central part of the clips **30** do not project from the edge from which the projections **24** emerge in order not to hinder the fitting of the other adjacent piece.

[0045] The clips **30** have their arms slightly converging in order to facilitate the progressive insertion. The clips **30** on the sides of the recesses **28** are seated in a front or facing machining of the lower flange **29** which cuts the length of the tab precisely to the degree of the thickness of the central part of that clip **30**.

[0046] In the third form of embodiment of the invention, according to figures 25 to 40, we can see that the parquet is formed as shown in figures 25 and 26 with two types of pieces in order to be able to produce intermeshed or herring-bone assemblies where some rectangular pieces, equal in their dimensions in this case, adopt an arrangement rotated **90°** with respect to the one which has previously been laid.

[0047] The pieces of tiles of one type are referenced with number **34** and those of the other type with number **35**, the latter being highlighted by means of stippling.

[0048] The pieces **34** offer the geometry shown in figures **27** to **31**, and the pieces **35** that shown in figures **32** to **36**.

[0049] The pieces **34** and **35** are symmetric with respect to a vertical plane, in other words, they have mirror symmetry, as we will see further below.

[0050] The pieces **34** present a visible or upper surface **36** with straight edges and a lower one **37** with some oblique projections **38** in two of their contiguous sides, and complementary oblique recesses **39** in the other two sides.

[0051] The oblique projections **38** have a thickness corresponding to the lower third of the thickness of the pieces **34**, and they are backed on below the paracentral flange **40** which emerges from the central zone of the thickness of the piece, in just two of these contiguous sides. In the other two opposite sides there exists a corresponding slot **41** which will receive the flange 40 in the tongue and groove coupling.

[0052] The recesses **39** are made in the flange **42** which projects out in the lower third of the thickness of the pieces **34** being extended along the corresponding adjacent sides, these recesses being located below the paracentral flange **40** in the corresponding section in which they overlap when being laid and will in turn remain introduced in the recesses **39**. As the projections are oblique in the same way as the recesses, the coupling is carried out with a diagonal approach of the new piece to be laid.

[0053] For their part, the pieces **35** possess the same geometrical characteristics in terms of flanges **(40, 42)**, oblique recesses **39**, oblique projections **38** and slots **41**, but with all of them arranged symmetrically, as can be deduced from making a parallel comparison of figures **27, 28 and 30** of pieces **34**, with **41, 42** and **44** of pieces **35.**

[0054] If, for example, we place figure 26 to the left of figure 35, we can see how, as a consequence of the symmetry they show, the oblique projections **38** and the oblique recesses **39** of the piece **34** on the left have inverted orientations with respect to those of the right. As what is wished is to form the parquet by intermeshing the pieces **34** and **35** in the form of a herring-bone, the connection is perfectly made by rotating the pieces **35** through **90° in the clockwise direction. In the example of embodiment shown in figures 25 to 36, where the pieces 34 and 35 intervene,** the laying of the parquet is done as seen in figures **37** and **38**. As the pieces **34** and **25** have two recesses and two projections in the respective greater sides and just one recess and one projection respectively and centred in the lesser sides (the length of the pieces is double their width), the connection is perfectly made due to each projection **38** and recess **39** in the connection having the same orientation. In figure 39 this assembly can be seen from the lower face which is where the projections and recesses are to be found. Using just pieces of the type 34 or pieces of the type **35**, this connection in a herring-bone (Intermeshed composition) cannot be made, and a parquet can only be laid with pieces connected linearly in rows (linear composition).

[0055] Finally, in relation to figure **40**, we can see a parquet formed from square pieces of the same type as the pieces **34** (therefore referenced with **34'**) and rectangular pieces of the type of pieces **35** (therefore referenced with **35'**) and which are only symmetric in terms of the arrangement of tabs, slots, recesses and projections, but not in terms of their dimensions. In this case, the pieces **34'** are double the length of the pieces **35'** and their width is half that of the sides of the latter.

Claims

1. **DEVICE FOR JOINING PARQUET-TYPE PLAQUES OR PIECES**, which are able to fit together due to having tongue-and-grooving means, **characterised in that** the parquet-type plaques or pieces **(1, 1', 18, 34, 35)** comprise extensions or projections **(2, 24, 38)** located in the lower face of at least one of the edges, backed on below a paracentral flange

(4, 25, 40) of that edge, which interconnect with some recesses (3, 28, 29) provided in the opposite edge of the adjacent piece or plaque (1, 1', 18, 34, 35) and specifically in a lower flange (5, 29, 42) which will in turn remain below the paracentral flange (4, 25, 40) of the opposite edge.

2. DEVICE FOR JOINING PARQUET-TYPE PLAQUES OR PIECES, according to claim 1, characterised in that the extensions (2) and the recesses (3) for interconnection in the coupling between adjacent plaques are angular so that the engagement can take place in two perpendicular coplanar movements.

3. DEVICE FOR JOINING PARQUET-TYPE PLAQUES OR PIECES, according to claim 1, characterised in that the lower flange (5) bearing the recesses (3) is continued via one of the adjacent edges of the piece (1, 1') having a mortise (10) at least in this edge shaped by two co-lateral flanges (9) suitable for being introduced in other similar depressions (11) of the opposite edge of the other piece or plaque (1, 1') in a longitudinal assembly.

4. DEVICE FOR JOINING PARQUET-TYPE PLAQUES OR PIECES, according to claim 1, characterised in that the upper or visible face of the pieces or plaques (1') have a plaque (13) backed on to them of any kind of ceramic, synthetic, natural or similar pavement.

5. DEVICE FOR JOINING PARQUET-TYPE PLAQUES OR PIECES, according to claim 4, characterised in that both parquet-type plaques or pieces (1') include machining of the edges for the inclusion of a separate joint (14) with an inverted "T" profile, the central piece of which is located between adjacent plaques (1') and the cross-piece is introduced in separate openings made higher in the paracentral extension or flange (4).

6. DEVICE FOR JOINING PARQUET-TYPE PLAQUES OR PIECES, according to any of the above claims, characterised in that the paracentral extensions or flanges (4) of two parquet-type plaques or pieces which occupy a diagonal position in a linear composition of assembly leave a continuous depression exposed in the form of a corner piece (16-17) which covers both of them in the angular meeting zone, where a corner piece (15) of identical outline remains embedded for the intermeshing of the plaque or pieces (1, 1') and which will later on be covered by the plaque (1, 1') which closes the join of four pieces.

7. DEVICE FOR JOINING PARQUET-TYPE PLAQUES OR PIECES, according to claim 1, characterised in that the projections (24, 38) for connection between pieces (18, 34, 35) are located on two consecutive sides, and the corresponding recesses (28, 39) are located on the sides opposite to the above ones, all of them (24, 28, 38, 39) adopting an oblique arrangement in the form of an obtuse angle triangle, all of which means that the coupling between pieces (18, 34, 35) is done by the coplanar sliding of the piece (18, 34, 35) with a diagonal movement.

8. DEVICE FOR JOINING PARQUET-TYPE PLAQUES OR PIECES, according to claim 1, characterised in that the flange (25, 40) of the central third of the thickness of the piece (18, 34, 35) has its upper face in the form of a ramp (26) descending towards the edge and slightly projecting beyond the projections (24, 38) for connection located beneath it, and the respective edge opposite to these flanges (25, 40) possesses a groove (27) of complementary cross-section for the coupling of that flange (25, 40) in the ramp (26) of an adjacent piece (18, 34, 35).

9. DEVICE FOR JOINING PARQUET-TYPE PLAQUES OR PIECES, according to claim 7, characterised in that the lower face (20) of the pieces (18) contain some angular notches (31) close to and parallel to two of the opposite edges and which affect the lower third of the thickness, in which are fitted some engagement clips (30) in the form of a "U" for securing two corresponding contiguous pieces (18), the central part being flush with the edge and the arms being embedded.

10. DEVICE FOR JOINING PARQUET-TYPE PLAQUES OR PIECES, according to claim 8, characterised in that the arms of the clips (30) in the form of a "U" are slightly convergent in order to optimise the securing.

11. DEVICE FOR JOINING PARQUET-TYPE PLAQUES OR PIECES, according to claim 1, characterised in that the upper or visible face (19) of the wooden or similar pieces (18), are covered by a ceramic or similar plaque stuck with adhesive.

12. DEVICE FOR JOINING PARQUET-TYPE PLAQUES OR PIECES, according to claim 11, characterised in that the edges of the wooden or similar pieces (18) comprise a perimetric slot made in the upper third of their thickness and an upper facing starting from it for the accurate fit of an inverted "T" shape joint whose central piece is located between the adjacent ceramic or similar plaques and the cross-piece is introduced in the respective slots.

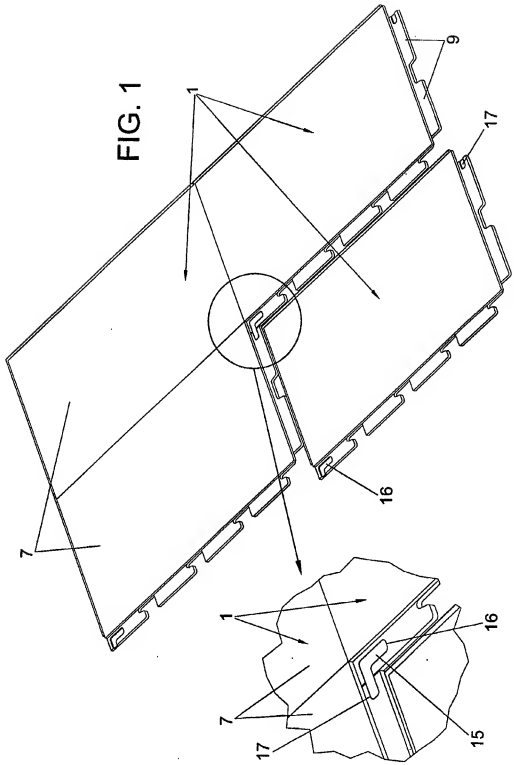
13. DEVICE FOR JOINING PARQUET-TYPE PLAQUES OR PIECES, according to claim 7, char-

acterised in that both the oblique projections **(38)** of the lower third of the thickness of the piece **(34, 35)** in two adjacent sides or edges, and the complementary recipient recesses **(39)** of the other two sides or edges, along with the paracentral flanges **(40, 42)** and slots **(41)** thereof, are provided in two different types of pieces **(34, 35)** which adopt a symmetric arrangement in them and between them in order to permit their interconnection or coupling in a position rotated through 90°.

14. **DEVICE FOR JOINING PARQUET-TYPE PLAQUES OR PIECES**, according to claim 13, **characterised in that** the dimensions of both pieces **(34, 35)** are the same.

15. **DEVICE FOR JOINING PARQUET-TYPE PLAQUES OR PIECES**, according to claim 13, **characterised in that** the length of one type of piece **(34)** is equivalent to a multiple of the width of the piece of the other type **(35)** and the width of the former is a divisor of the length of the latter.

FIG. 1



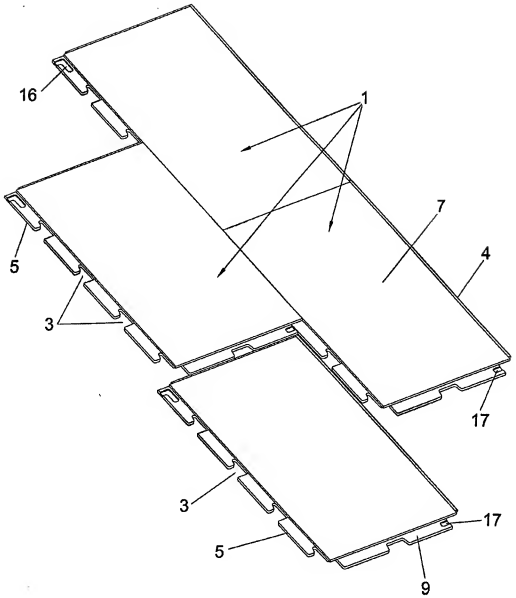


FIG. 2

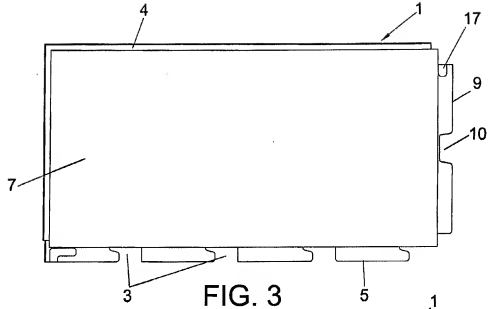


FIG. 3

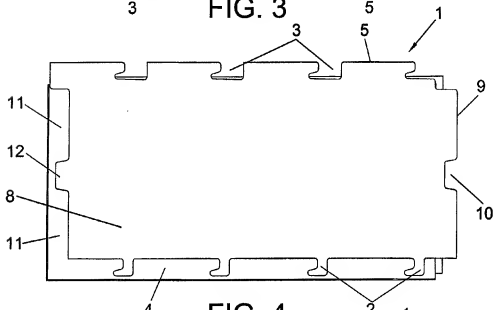


FIG. 4

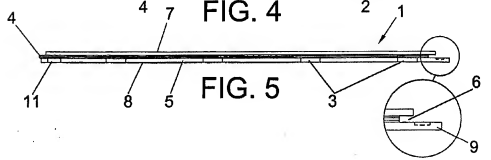


FIG. 5

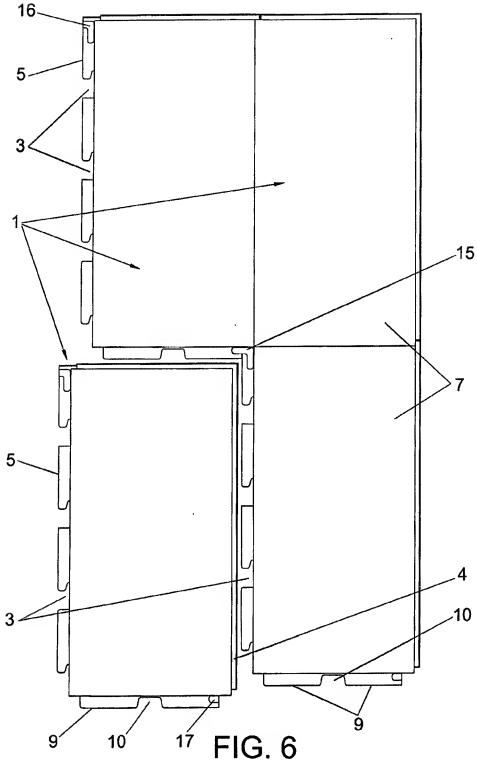


FIG. 6

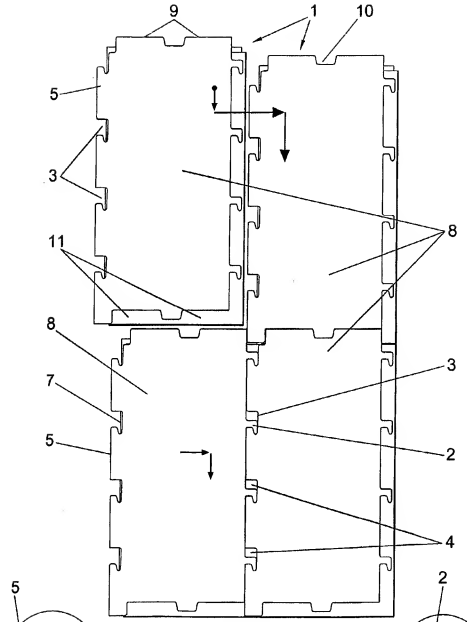


FIG. 7

FIG. 8

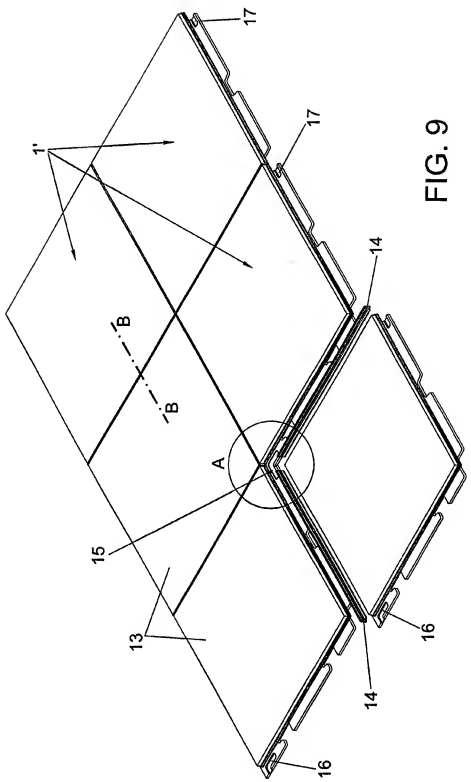


FIG. 9

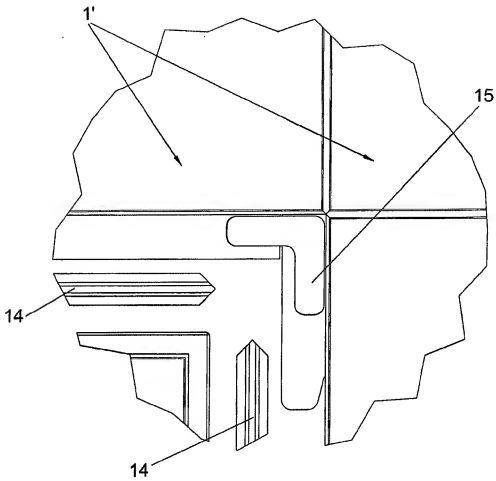


FIG. 10
A

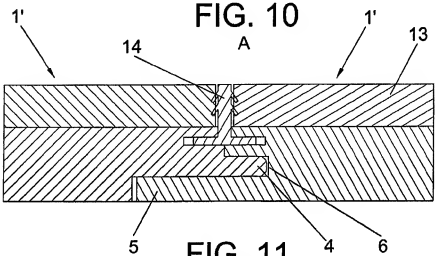


FIG. 11
B-B

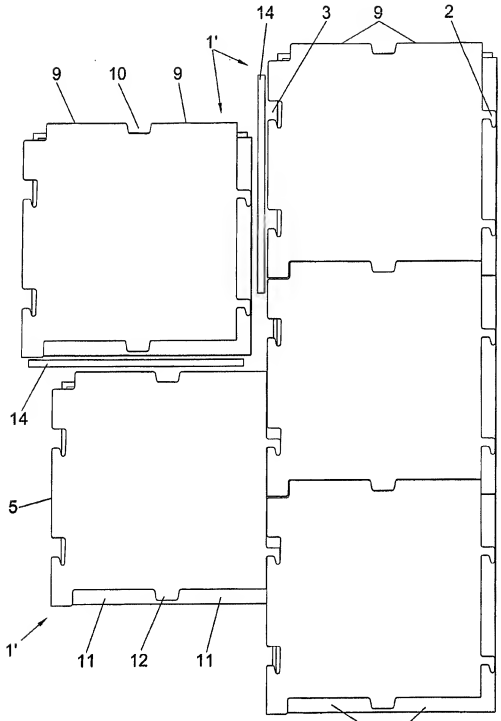


FIG. 12

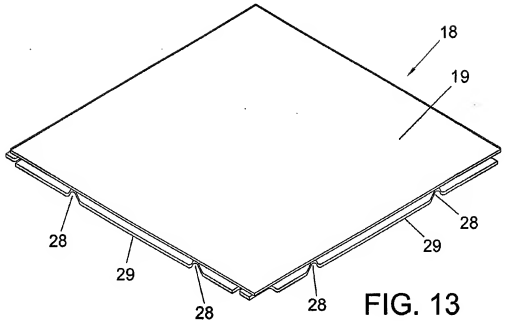


FIG. 13

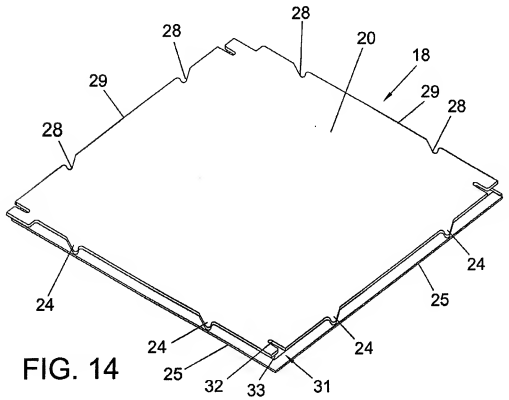


FIG. 14

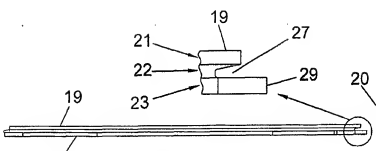
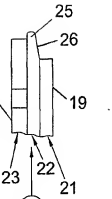


FIG. 16



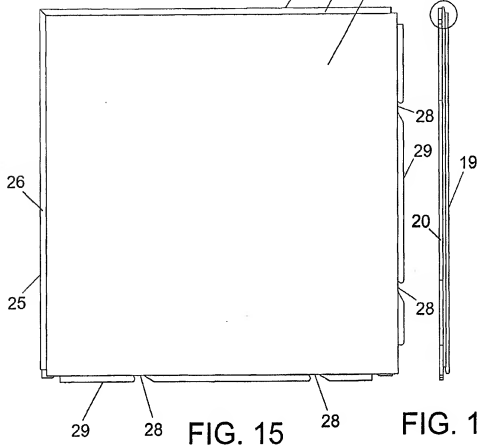


FIG. 15

FIG. 17

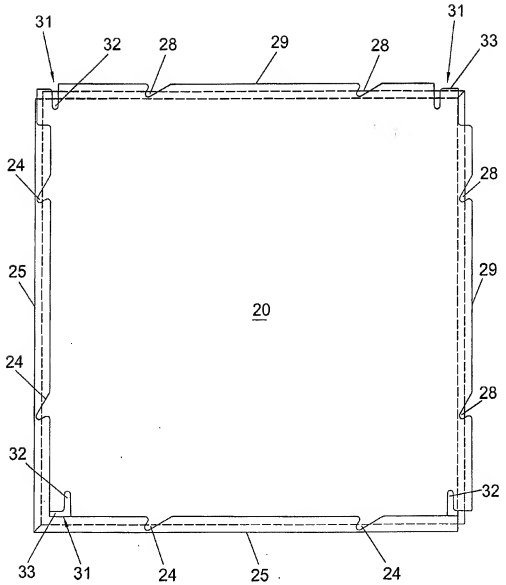


FIG. 18

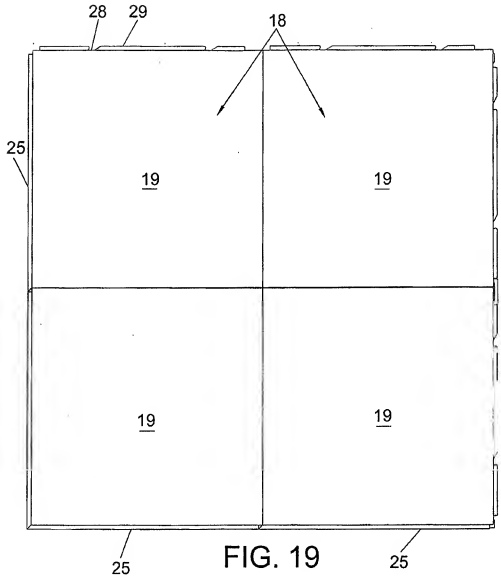


FIG. 19

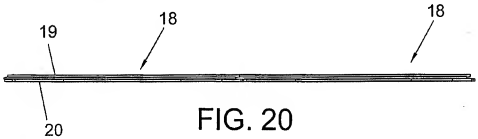


FIG. 20

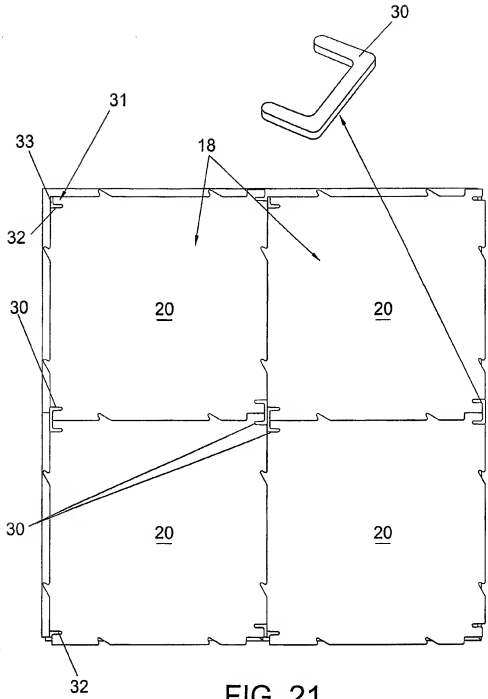


FIG. 21

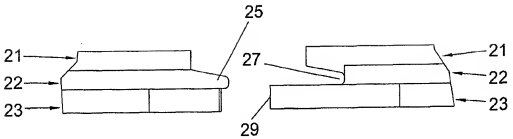


FIG. 22

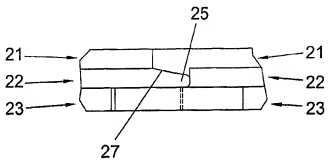


FIG. 23

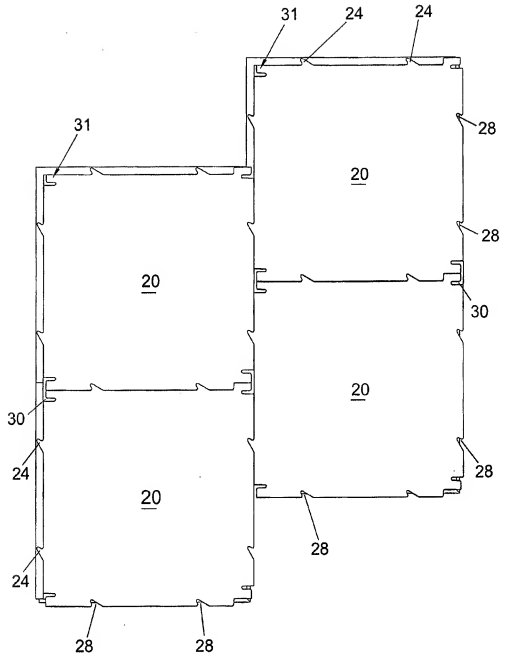


FIG. 24

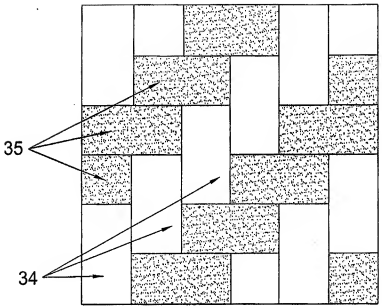


FIG. 25

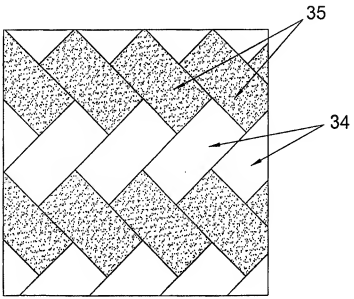


FIG. 26

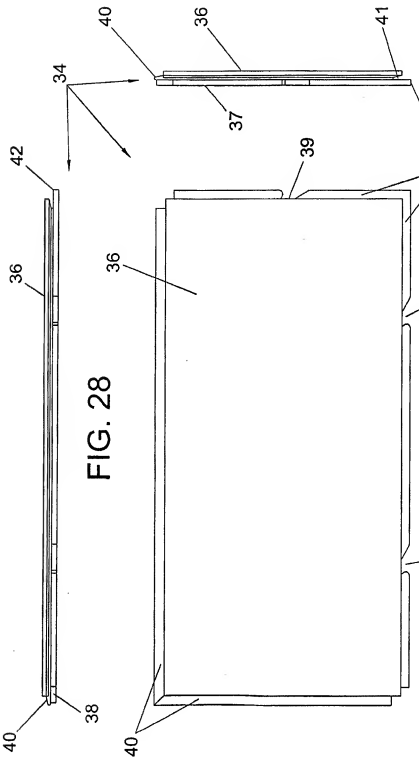


FIG. 29

FIG. 28

FIG. 27

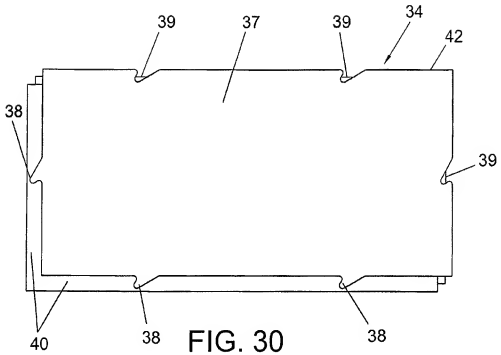


FIG. 30

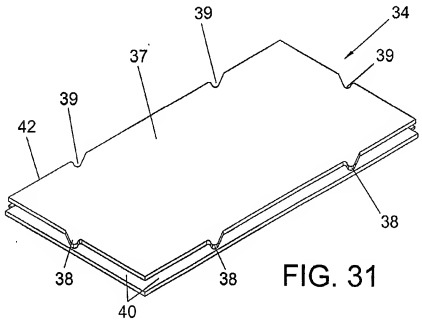
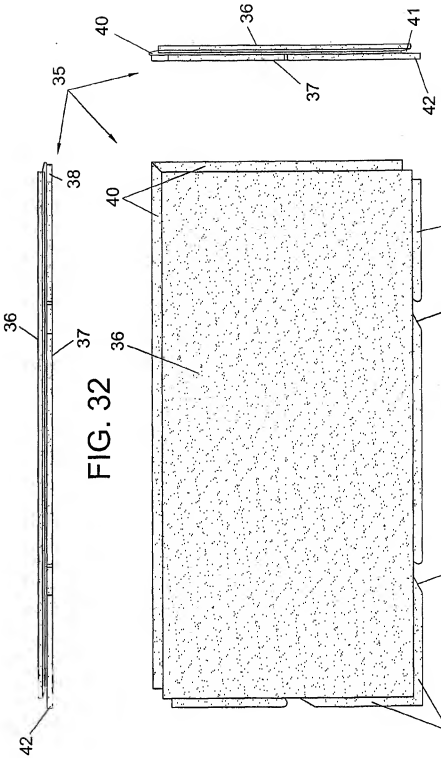


FIG. 31



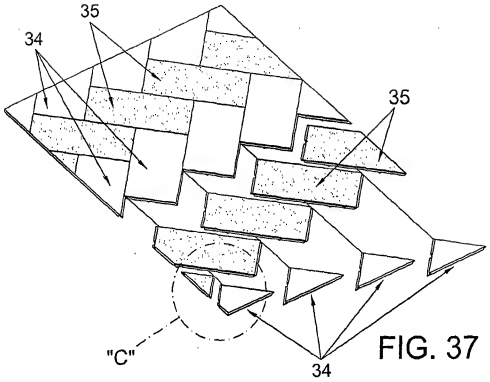


FIG. 37

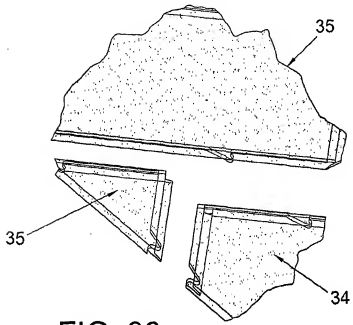


FIG. 38

"C"

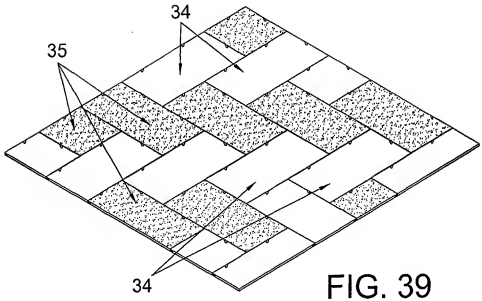


FIG. 39

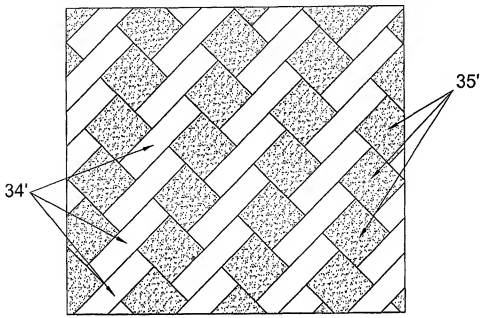


FIG. 40

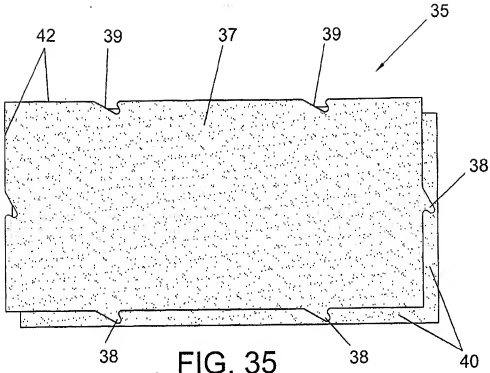


FIG. 35

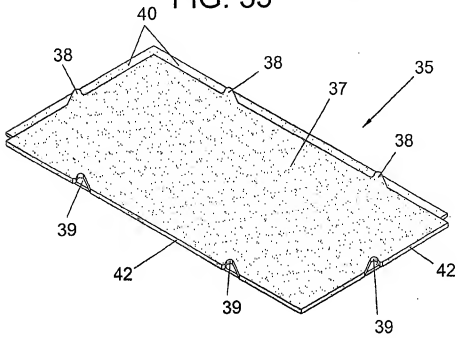


FIG. 36